



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

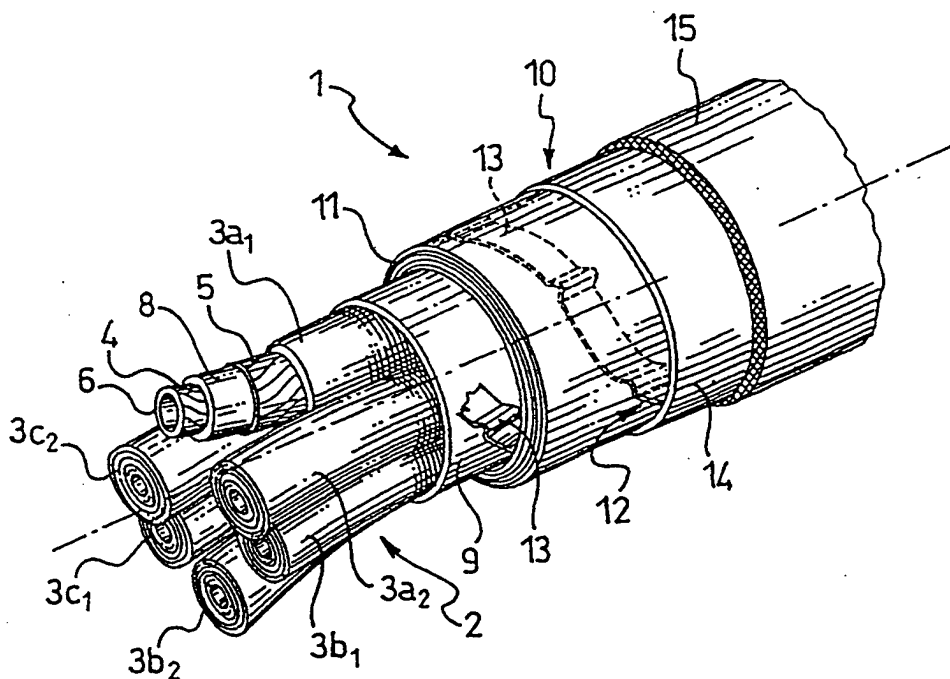
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(21) International Application Number: PCT/EP99/10443 (22) International Filing Date: 22 December 1999 (22.12.99) (30) Priority Data: 98204401.8      24 December 1998 (24.12.98)      EP 60/114,546      31 December 1998 (31.12.98)      US (71) Applicant (for all designated States except US): PIRELLI CAVI E SISTEMI S.P.A. [IT/IT]; Viale Sarca, 222, I-20126 Milano (IT). (72) Inventors; and (75) Inventors/Applicants (for US only): NASSI, Marco [IT/IT]; Via Cibrario, 36bis, I-10100 Torino (IT). LADIE', Pierluigi [IT/IT]; Corso di Porta Ticinese, 69, I-20123 Milano (IT). (74) Agents: BOTTERO, Claudio et al.; Porta, Checcacci & Associati S.p.A., Viale Sabotino, 19/2, I-20135 Milano (IT).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the              claims and to be republished in the event of the receipt of              amendments.</i>	

(54) Title: SUPERCONDUCTING CABLE

## (57) Abstract

A superconducting cable (1) having at least one phase is described, which comprises: a) a layer (20) of tapes comprising superconducting material; b) a tubular element (6) for supporting said layer (20) of tapes comprising superconducting material, said tubular element comprising at least one portion made of metallic material, and being in electrical contact with the layer (20) of tapes comprising superconducting material; c) a cooling circuit adapted to cool the superconducting material to a working temperature non higher than its critical temperature, comprising a fluid at a predetermined working pressure ranging between a minimum value and a maximum value; wherein the deformation of said tapes comprising superconducting material, consequent to a

temperature variation between the room temperature and the working temperature of the cable is lower to the critical deformation of the same tapes, characterized in that a predetermined amount of conductive material of resistive type in electrical contact with the layer (20) of superconducting material is present, such that the maximum temperature reached by the superconducting material in case of short circuit is lower than the minimum temperature between the critical temperature of the superconducting material and the boiling temperature of said cooling fluid at the minimum working pressure of said fluid.



## INTERNATIONAL SEARCH REPORT

International Application No

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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H01B12/16

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H01B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2 122 741 A (COMP. GÉNÉRALE D' ÉLECTR.) 1 September 1972 (1972-09-01) page 2, line 17 -page 6, line 37; figures 1,2	1,16,17
A	EP 0 786 783 A (PIRELLI) 30 July 1997 (1997-07-30) page 4, line 24 -page 9, line 44; figures 1-3	1,16

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Demolder, J

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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